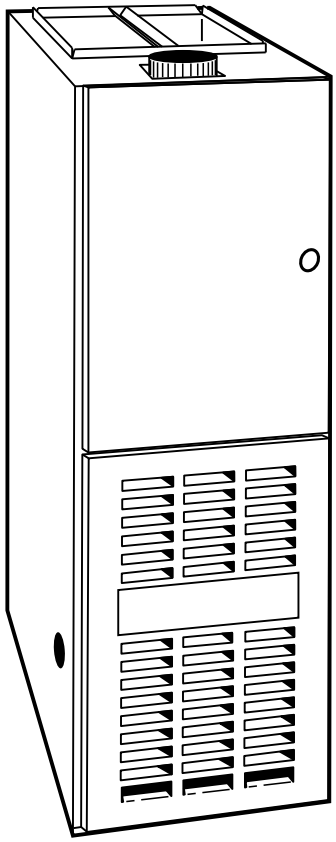
bryant
Heating & Cooling Systems

PLUS 80 TWO-SPEED DOWNFLOW INDUCED-COMBUSTION FURNACE

331JAV

Sizes 060 thru 100
Series B



The Plus 80 Two-Speed Downflow Furnace achieves 80 percent Annual Fuel Utilization Efficiency (AFUE) rating. The benefits of 2-speed operation in reducing sound and improving comfort put it in a class well ahead of the competition. The Plus 80 Two-Speed has the kind of overall performance needed in today's homes. All models are GAMA efficiency rating certified and certified for use in California Air Quality Management Districts.

FEATURES

EFFICIENCY — The Plus 80 Two-Speed Induced-Combustion Gas Furnace provides the efficiency customers want with 80.0% AFUE.

HOT SURFACE IGNITION — No pilot to waste gas with this field-proven ignition system.

ALUMINIZED HEAT EXCHANGER — The patented 4-pass heat exchanger is made of aluminized steel and backed by a 20-year Limited Warranty.

INTELLIGENT CONTROL — The Plus 80 Two-Speed has an intelligent control that monitors the operation of the furnace. This control also has a component-test feature that enables the servicing technician to verify operation of the control; the high and low inducer; the hot surface ignitor; and high-, medium-, and low-speed blower operation. The control features a 3-amp fuse that protects the transformer and control. We guarantee the reliability of the control with a 3-year Limited Warranty.

40-IN. HEIGHT — The Plus 80 Two-Speed cabinet height is only 40 in. This simplifies installation in alcoves, attics, basements (ideal for short basement), closets, and utility rooms, especially with a taller high-efficiency cooling coil.

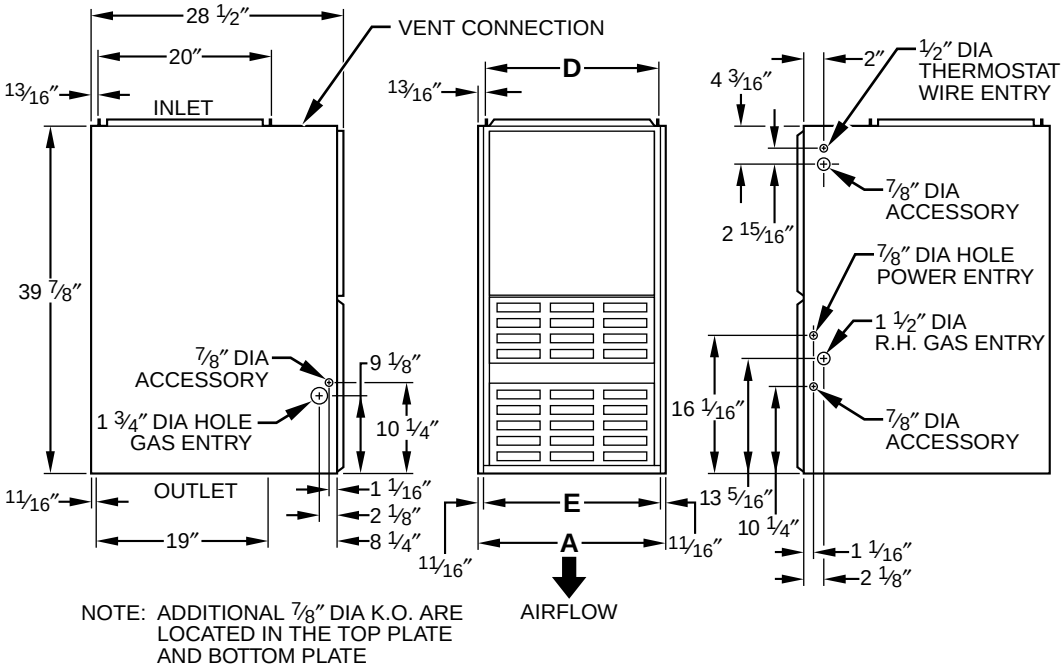
PREPAINTED CABINET — The Plus 80 Two-Speed uses prepainted sheet metal for the cabinet. This is the same high-quality finish found on refrigerators and other appliances today. We ensure its durability by using a galvanized steel substrate to provide superior rust protection.

PATENTED DRAFT SAFEGUARD — Our induced-combustion furnace has a patented draft safeguard switch. The safeguard switch will stop furnace operation if the vent system becomes blocked or is not operating properly. An exclusive with the Plus 80 Two-Speed furnace.

EASY INSTALLATION — The Plus 80 Two-Speed has many features that make installation easier: left or right gas and electrical connections, heating and cooling blower speed selector, matching coil sizes, accessory low-voltage connections, and many more.

QUIET OPERATION — A soft mount inducer assembly and 2-stage slow-opening gas valve reduce sound level. The 2-speed operation capability minimizes furnace and air noise for total home comfort.

Form No. PDS 331J.60.3



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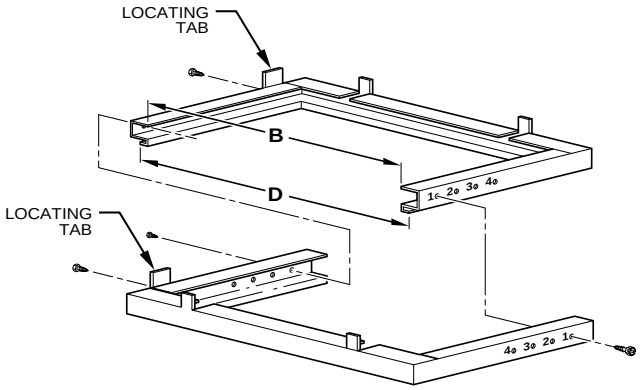
DIMENSIONS (In.)

UNIT SIZE	A	D	E	VENT CONN (Dia)	SHIPPING WEIGHT (Lb)
036060	14-3/16	12-9/16	12-11/16	4	145
048080	17-1/2	15-7/8	16	4	154
060100	21	19-3/8	19-1/2	4	181

ACCESSORY DOWNFLOW SUBBASE



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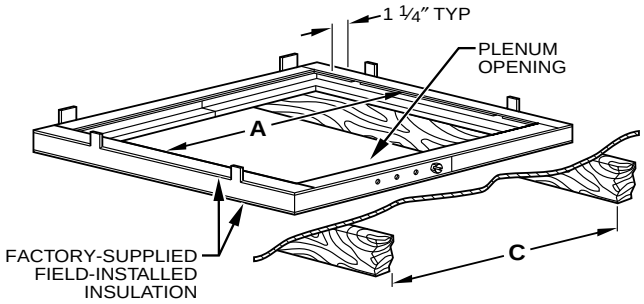
Disassembled



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Assembled

DIMENSIONAL DATA (In.)

FURNACE WIDTH	PLENUM OPENING*		FRAMED FLOOR HOLE		HOLE NO. FOR WIDTH ADJUSTMENT
	A	B	C	D	
14-3/16	11-13/16	19	13-7/16	20-3/8	4
17-1/2	15-1/8	19	16-3/4	20-3/8	3
21	18-5/8	19	20-1/4	20-3/8	2

* The plenum should be constructed 1/4 in. smaller in width and depth than the plenum dimensions shown above.

MEETS DOE RESIDENTIAL CONSERVATION SERVICES PROGRAM STANDARDS.

Before purchasing this appliance, read important energy cost and efficiency information available from your retailer.

SPECIFICATIONS

UNIT SIZE		036060	048080	060100
RATINGS AND PERFORMANCE				
Gas Input (Btuh)*	High Stage	63,000	84,000	105,000
	Low Stage	40,500	54,000	67,500
Output Capacity (Btuh)†	High Stage	51,000	69,000	86,000
Nonweatherized ICS	Low Stage	33,000	44,000	55,000
AFUE†	Nonweatherized ICS	80.0	80.0	80.0
Certified Temperature Rise	High Stage	30—60	30—60	35—65
Range (°F)	Low Stage	15—45	15—45	20—50
Certified External Static Pressure	Heat/Cool	0.10/0.50	0.15/0.50	0.20/0.50
Airflow CFM	Heating High/Low	1195/1030	1355/1170	1735/1500
	Cooling	1195	1580	1950
ELECTRICAL				
Unit Volts— Hertz— Phase		115—60—1		
Operating Voltage Range	Min—Max	104—127		
Maximum Unit Amps		10.5	14.2	17.9
Maximum Wire Length (Measured 1 Way)	Ft	35	26	32
Minimum Wire Size		14		12
Maximum Fuse Size		15		20
Transformer (24v)		40va		
External Control	Heating	19va		
Power Available	Cooling	35va		
Air Conditioning Blower Relay		Standard		
CONTROLS				
Limit Control		SPST (Auto-Reset)		
Heating Blower Control		Solid-State Time Operation		
Inducer		2-Speed		
Burners (Monoport)		3	4	5
Gas Connection Size		1/2-in. NPT		
GAS CONTROLS				
2-Stage Redundant Gas Valve		White-Rodgers		
	Min Inlet Pressure (In. wc)	4.5 (Natural Gas)		
	Max Inlet Pressure (In. wc)	13.6 (Natural Gas)		
Ignition Device		Hot Surface		
BLOWER DATA				
Direct-Drive Motor HP (PSC)		1/3	1/2	3/4
Motor Full Load Amps		5.1	7.4	11.0
RPM (Nominal)—Speeds		1075—5		
Blower Wheel Diameter x Width (In.)		10 x 6	10 x 8	10 x 6
Filter Size (In.)—Permanent Washable (Supplied)		(2) 14 x 20 x 1		(2) 16 x 20 x 1
DEALER-INSTALLED ACCESSORIES				
Downflow Subbase**		KGASB0201ALL		
High-Altitude Pressure Switch Kit‡		KGAH5601PSW		
Gas Conversion Kit—Natural-to-Propane		KGANP24012SP		
Gas Conversion Kit—Propane-to-Natural		KGAPN20012SP		

* Gas input ratings are certified for elevations to 2000 ft. For elevations above 2000 ft, reduce ratings 4% for each 1000 ft above sea level. Refer to National Fuel Gas Code Table F4. In Canada, derate the unit 10% for elevations 2000 ft to 4500 ft above sea level.

† Capacity in accordance with U.S. Government DOE test procedures.

‡ 5500 ft and higher above sea level.

** Required for installation on combustible floors when no coil box is used, or when any coil box other than a Bryant cased coil is used.

ICS—Isolated Combustion System

CONTROLS—THERMOSTATS AND ZONING

THERMOSTAT—NON-PROGRAMMABLE	For Use with 1-Speed Air Conditioner—TSTATBHNAC01-A For use with 2-Speed Air Conditioner—TSTATBHN2S01-A For Use with 2-Speed Heat Pump—TSTATBHN2S01-A
THERMOSTAT-PROGRAMMABLE	For Use with 1-Speed Air Conditioner—TSTATBHPAC01-A For Use with 2-Speed Air Conditioner—TSTATBHP2S01-A For Use with 1-Speed Heat Pump—TSTATBHPDF01-A For Use with 2-Speed Heat Pump—TSTATBHP2S01-A or TSTATBHPDF01-A
THERMIDISTAT™ —PROGRAMMABLE THERMOSTAT with Humidity Control	TSTATBHPRH01-A
ZONING—2-ZONE	ZONEBB2KIT01, ZONEKIT2ZBDP
ZONING—4-ZONE	ZONEBB4KIT01

AIR DELIVERY— CFM (With Filter)

UNIT SIZE	BLOWER MOTOR HP	SPEED	EXTERNAL STATIC PRESSURE (IN. WC)							
			0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
036060	1/3 PSC	High	1435	1385	1320	1265	1195	1145	1080	1000
		Med-High	1195	1165	1145	1105	1070	1015	955	885
		Med	1030	1020	1010	985	955	915	860	790
		Med-Low	900	890	875	855	835	795	755	690
		Low	705	700	690	675	655	625	580	525
048080	1/2 PSC	High	1855	1765	1710	1665	1580	1570	1410	1310
		Med-High	1595	1570	1530	1485	1410	1355	1280	1200
		Med	1355	1345	1305	1270	1220	1170	1110	1025
		Med-Low	1170	1170	1140	1110	1075	1025	965	890
		Low	880	865	855	830	805	755	720	655
060100	3/4 PSC	High	2235	2185	2110	2030	1950	1835	1700	1540
		Med-High	1995	1970	1915	1845	1765	1680	1545	1415
		Med	1735	1735	1675	1625	1565	1480	1370	1265
		Med-Low	1510	1500	1485	1455	1400	1320	1230	1130
		Low	1145	1140	1125	1115	1100	1085	1045	990

INSTALLATION

This unit is certified for downflow installation only. See Installation Manual for important installation instructions.

MINIMUM INCHES CLEARANCE TO COMBUSTIBLE CONSTRUCTION

This forced air furnace is equipped for use with natural gas at altitudes 0 - 10,000 ft (0-3,050m).

An accessory kit, supplied by the manufacturer, shall be used to convert to propane gas use or may be required for some natural gas applications.

This furnace is for indoor installation in a building constructed on site.

This furnace may be installed on combustible flooring in alcove or closet at minimum clearance from combustible material.

This furnace may be used with a Type B-1 Vent and may be vented in common with other gas-fired appliances.

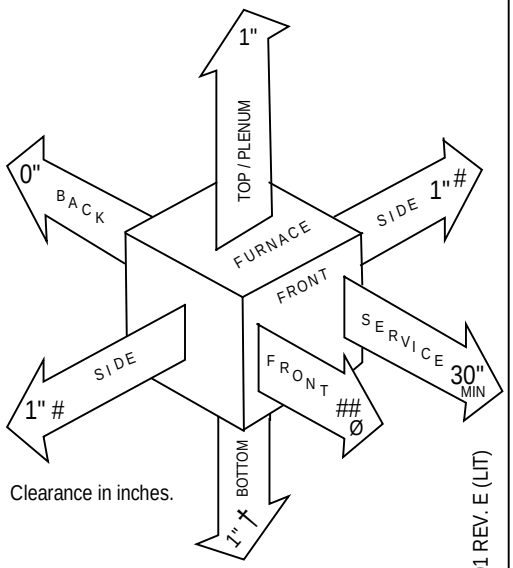
† For installation on non-combustible floors only. For installation on combustible flooring only when installed on special base, Part No. KGASB0201ALL, Coil Assembly, Part No. CD5 or CK5, or Coil Casing, Part No. KCAKC.

\# For furnaces wider than 14.25 inches (362mm) may be 0 inches.

Ø 18 inches front clearance required for alcove.

\## For single wall vent type 6 inches.

This furnace is approved for DOWNFLOW installations only.



Clearance in inches.

Vent Clearance to combustibles:
For Single Wall vents 6 inches (6 po).
For Type B-1 vent type 1 inch (1 po).

322567-101 REV. E (LIT)

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Heating & Cooling Systems

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

UNIT MUST BE INSTALLED IN ACCORDANCE WITH INSTALLATION INSTRUCTIONS

Cancels: PDS 331J.60.2B

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